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STANDARDS

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701501-06	Typical Application of Traffic Control Devices
701502-09	Typical Application of Traffic Control Devices
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701602-10	Typical Application of Traffic Control Devices
701606-10	Typical Application of Traffic Control Devices
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701901-08	Traffic Control Devices
720011-01	Metal Posts For Signs, Markers, & Delineators
725001-01	Object and Terminal Markers
728001-01	Telescoping Steel Sign Support
729001-01	Application of Type A and B Metal Posts
782006-01	Guardrail and Barrier Wall Reflector Mounting Details

SUMMARY OF QUANTITIES

VARIOUS ROUTES
SECTION D2 GR (NORTH) 2020
VARIOUS COUNTIES
CONTRACT # 64N95
SHEET 3 OF 26

100% State
0021

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	MCHD FUND	CONTRACT MAINT
20400800	FURNISHED EXCAVATION	CU YD	50	25	25
63100045	TRAFFIC BARRIER TERMINAL, TYPE 2	EACH	3	2	1
63100085	TRAFFIC BARRIER TERMINAL, TYPE 6	EACH	3	2	1
63100105	TRAFFIC BARRIER TERMINAL, TYPE 10	EACH	2	1	1
63100167	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) TANGENT	EACH	30	20	10
63100169	TRAFFIC BARRIER TERMINAL, TYPE 1 (SPECIAL) FLARED	EACH	15	10	5
63301210	REMOVE AND RE-ERECT STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	50	25	25
63500105	DELINEATORS	EACH	25	15	10
66400105	CHAIN LINK FENCE, 4'	FOOT	75	50	25
66400305	CHAIN LINK FENCE, 6'	FOOT	150	75	75
66500105	WOVEN WIRE FENCE, 4'	FOOT	100	75	25
78200005	GUARDRAIL REFLECTORS, TYPE A	EACH	65	60	5

SUMMARY OF QUANTITIES

VARIOUS ROUTES
SECTION D2 GR (NORTH) 2020
VARIOUS COUNTIES
CONTRACT # 64N95
SHEET 4 OF 26

100% State
0021

CODE NO.	ITEM	UNIT	TOTAL QUANTITY	MCHD FUND	CONTRACT MAINT
X6320310	LONG POST FOR STEEL PLATE BEAM GUARDRAIL	EACH	10	5	5
X6330725	STEEL PLATE BEAM GUARDRAIL (SHORT RADIUS)	FOOT	75	25	50
X6331101	TUBULAR THRIE BEAM	FOOT	25	12.5	12.5
X6331110	STEEL POSTS SPECIAL	EACH	30	20	10
X6432110	REPLACE IMPACT ATTENUATORS (NON-REDIRECTIVE), TEST LEVEL 3	EACH	20	15	5
X6640694	CHAIN LINK FENCE POST 4'	EACH	25	10	15
X6640601	CHAIN LINK FENCE POST 6'	EACH	25	15	10
Z0008760	EMERGENCY WORK CALL OUT	EACH	10	5	5
Z0012752	CONCRETE STRUCTURE REPAIR	CU FT	24	16	8
Z0020210	PULL POST ARRANGEMENT	EACH	3	2	1
Z0029668	REPAIR TRAFFIC BARRIER TERMINAL TYPE 1 SPECIAL - POST	EACH	40	20	20
Z0052000	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE A	FOOT	2500	2000	500
Z0052100	REPAIR STEEL PLATE BEAM GUARDRAIL, TYPE B	FOOT	25	12.5	12.5

GENERAL NOTES

When posts are required to be placed through bituminous shoulders, all costs to do so shall be considered included in the contract unit cost of the work being done. The final top 3 inches of the area around the post shall be capped with either bituminous material or grout.

Standard 631021 (Traffic Barrier Terminal, Type 4) is obsolete and can no longer be installed. Typically, a Type 4 Terminal was used in the median of multi-lane divided highway. They are, however, still in use and when damage to one occurs, it is to be removed and replaced with a Traffic Barrier Terminal, Type 1, Special, that is to be at least 12 feet off the edge of the pavement. To obtain the 12 foot distance, the existing SPBGR Type A will have to be removed and re-erected with a flair rate of 1:30 until the face of the guardrail is 12 feet out from the edge of the pavement. At this point, (where the SPBGR Type A is 12 feet off the edge of pavement), a new Traffic Barrier Terminal Type 1, Special (Tangent or Flared) is to be installed.

The Contractor shall supply the Resident Engineer with the manufacturer's installation requirements for the Traffic Barrier Terminal Type 1, Special to be used on this contract, both tangent and flared.

Wood blockouts on wood posts shall be connected with one nail to prevent the blockout from moving.

All disturbed areas in the right of way, caused by the Contractor's operations, shall be seeded with class 2A salt tolerant roadside mixture as stated in Section 250, Article 250.07 of the Standard Specifications for Road and Bridge Construction. All costs for seeding shall be considered included in the unit cost of the work being performed.

If the Contractor would like the work location listed with GPS coordinates on the work orders, we can do that with units provided by the Contractor. We would require five (5) units for this contract, one for each of our field engineers and field technicians. The Contractor would be responsible for all costs to keep the units in operational condition. Please note that if the same contractor wins both guardrail repair contracts for our District, the total number of GPS units required would be ten (10).

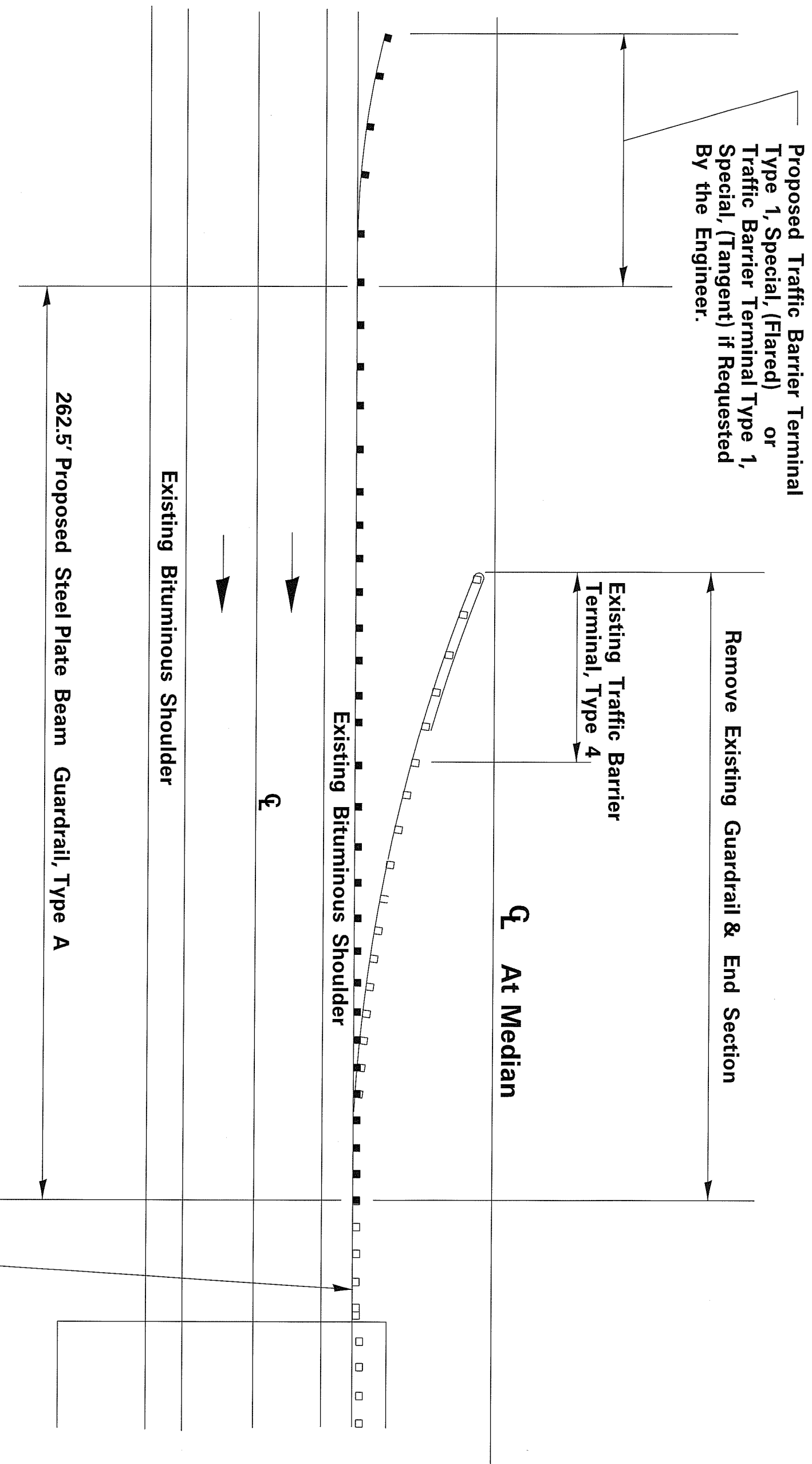
Delineators shall be installed as shown in Standard 635001, except that the post shall be rotated 180° and only metal-backed delineators shall be permitted. Delineators shall be placed at the ends of approach guardrail terminal sections. This work will be paid for at the contract unit price each for DELINEATORS.

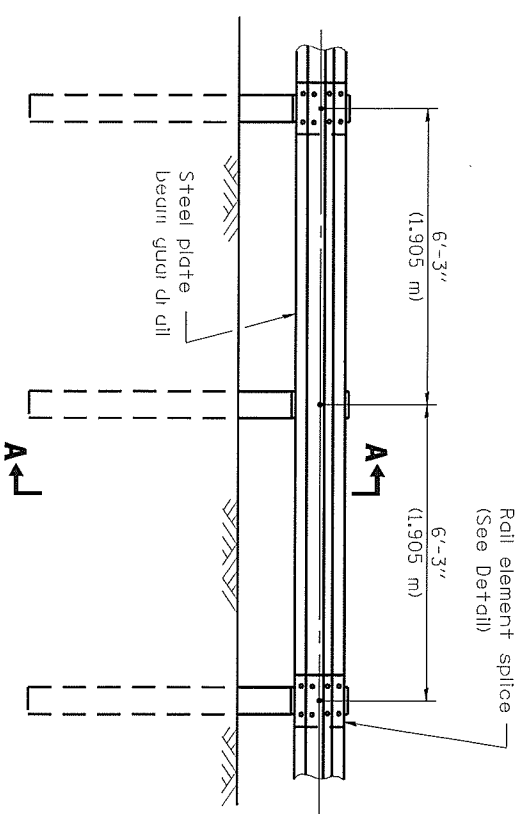
The Contractor shall be responsible for protecting utility property during construction operations as outlined in Article 107.31 of the Standard Specifications. A minimum of 48 hours advance notice is required for non-emergency work. The JULIE number is 800-892-0123.

IDOT is not a member of JULIE. If you are near any overhead lighting, intersection lighting or traffic signals, contact the IDOT Traffic Office at 815/284-5469 at least 48 hours prior to work.

Additional Options for Repair to Damaged Obsolete Traffic Barrier Terminal Type 4

Various Routes
D2 GR (North) 2020
Various Counties
Sheet 7 of 26
Contract Number: 64N95

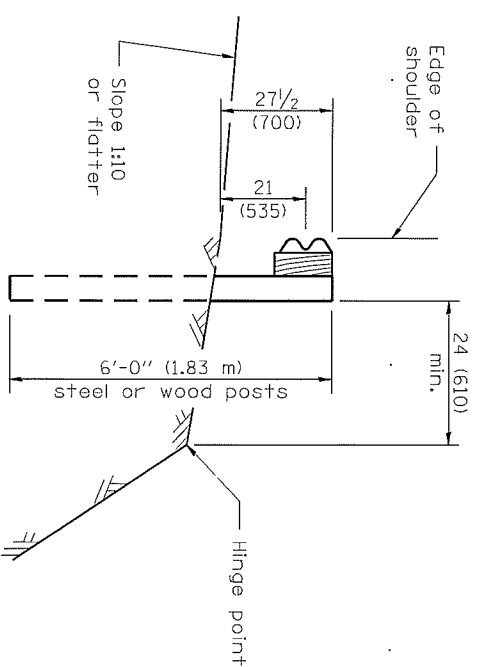




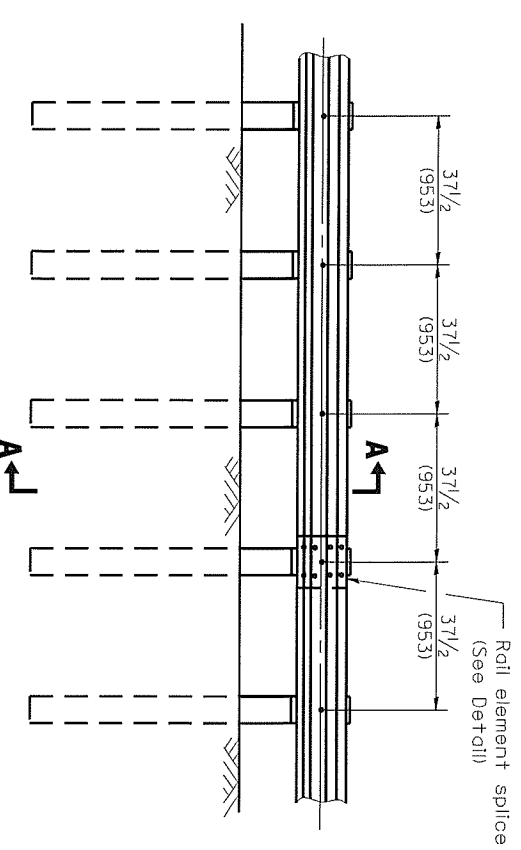
ELEVATION

TYPE A

6'-3" (1.905 m) Typical post spacing



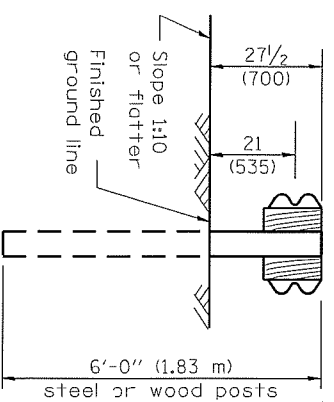
SECTION A-A



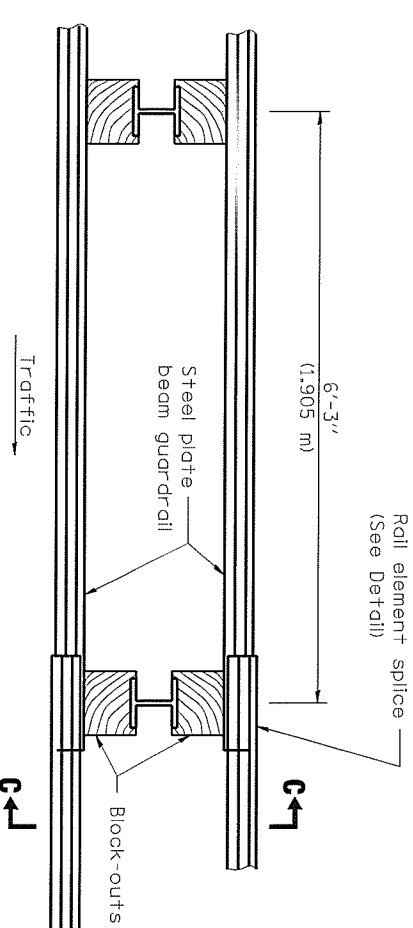
ELEVATION

TYPE B

37 1/2 (953) Closed post spacing



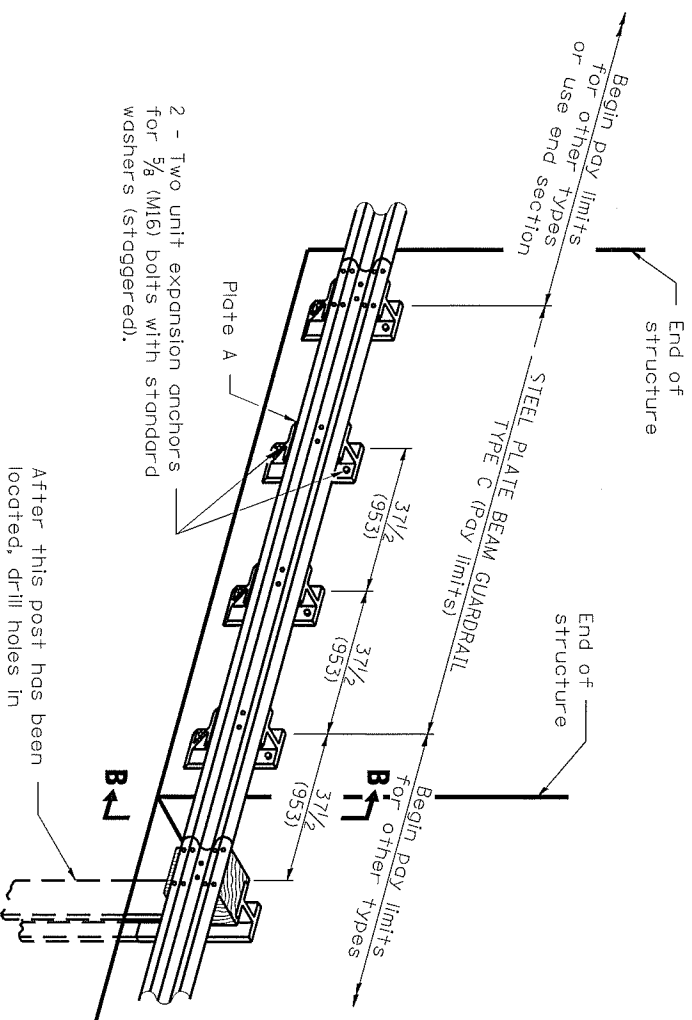
SECTION C-C



PLAN

TYPE D

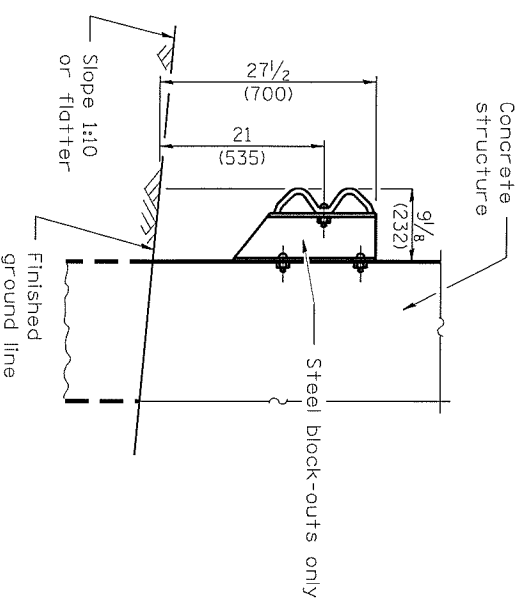
Double steel plate beam guardrail
6'-3" (1.905 m) typical post spacing



After this post has been located, drill holes in concrete for block-out attachments.

TYPE C

37 1/2 (953) Block-out spacing



SECTION B-B

Illinois Department of Transportation

APPROVED January 1, 2010

ENGINEER OF LOCAL ROADS AND STREETS

APPROVED January 1, 2010

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-08

Various Routes

D2 GR (North) 2020

Various Counties

Sheet 8 of 26

Contract #64N95

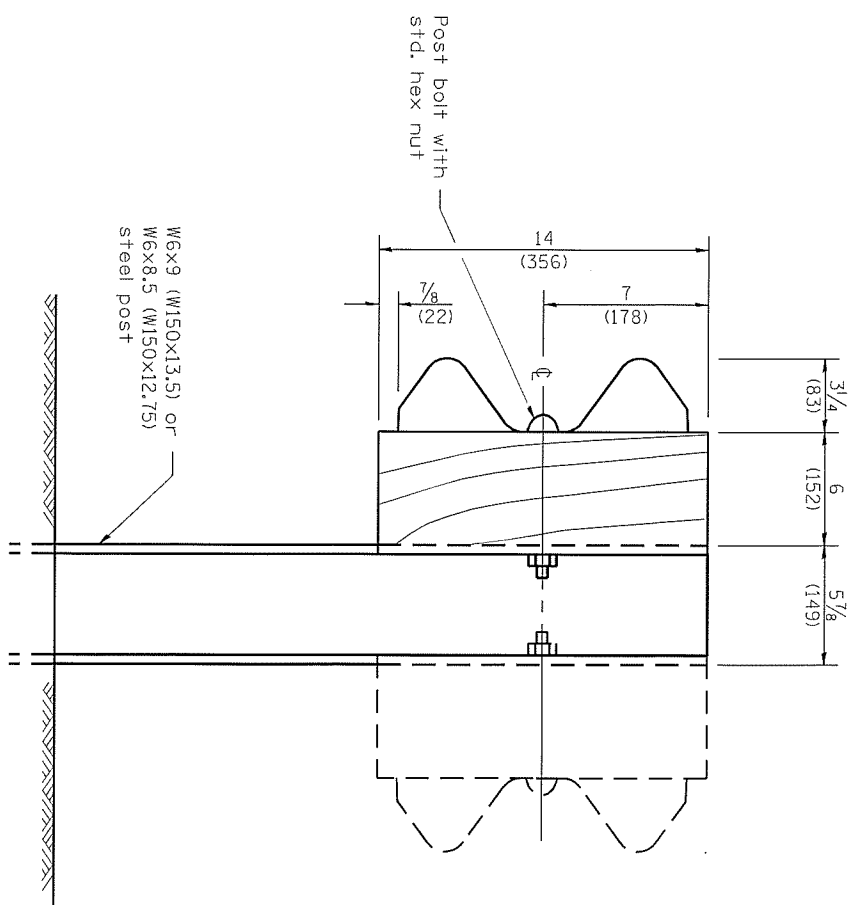
All dimensions are in inches (millimeters) unless otherwise shown.

GENERAL NOTES
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

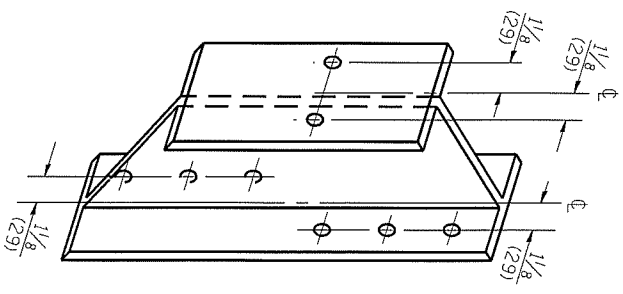
STEEL PLATE BEAM GUARDRAIL
27 1/2" (700mm) HEIGHT

(Sheet 1 of 4)

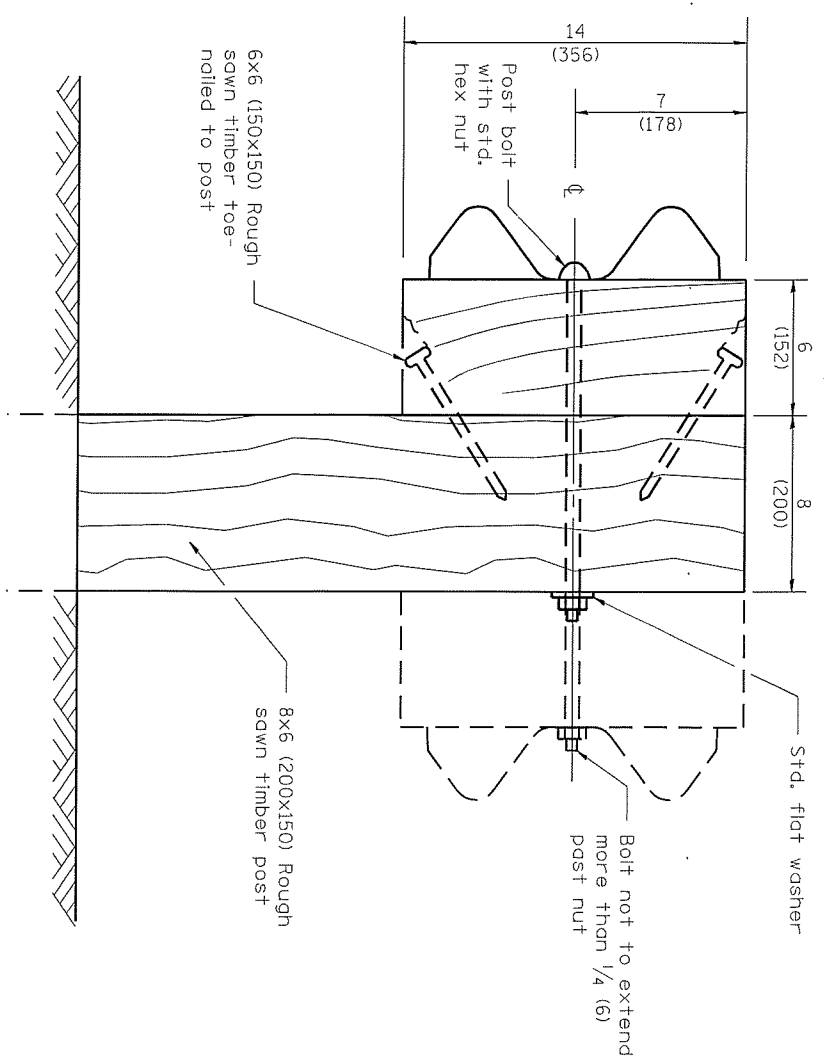
STANDARD B.L.R. 26-2



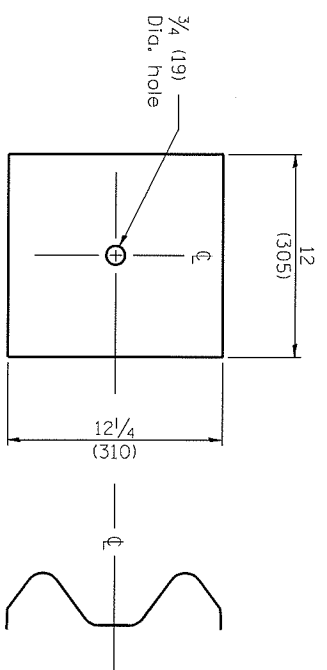
STEEL POST CONSTRUCTION



STEEL BLOCK-OUT DETAIL

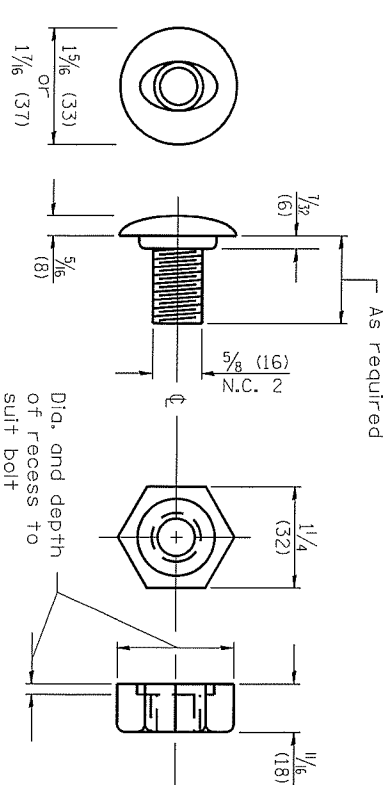


WOOD POST CONSTRUCTION



NOTE
 Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

PLATE A



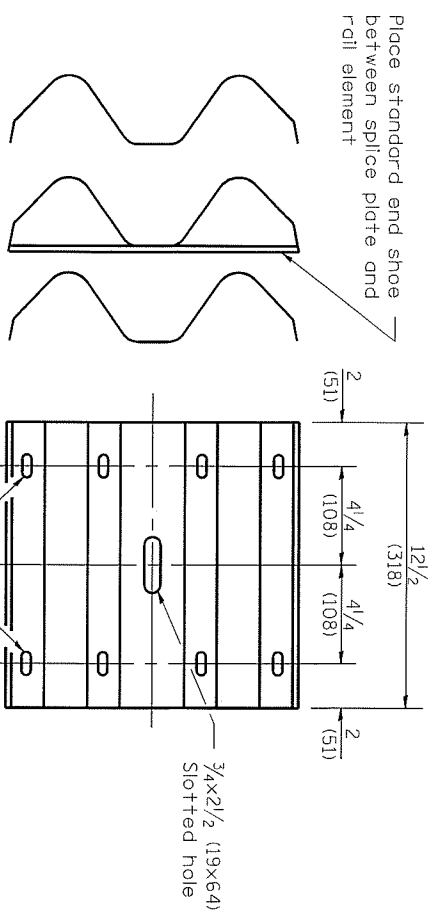
POST OR SPLICE BOLT & NUT

Illinois Department of Transportation
 APPROVED January 1, 2010
 ENGINEER OF LOCAL ROADS AND STREETS
 APPROVED January 1, 2010
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-08

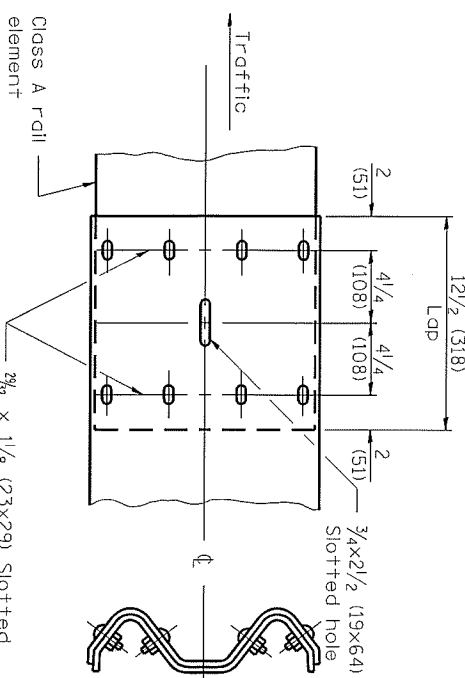
Various Routes
 D2 GR (North) 2020
 Various Counties
 Sheet 9 of 26
 Contract #64N95

STEEL PLATE BEAM GUARDRAIL
27 1/2" (700mm) HEIGHT
 STANDARD B.L.R. 26-2
 (Sheet 2 of 4)



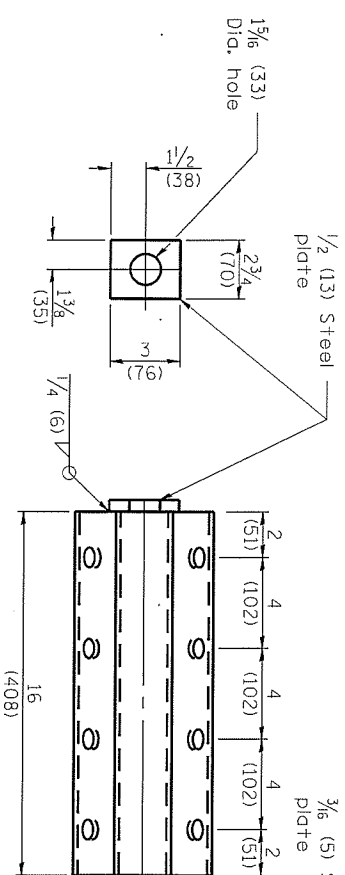
SPLICE PLATE

2 7/8 x 1 1/8 (23x29) Slotted holes



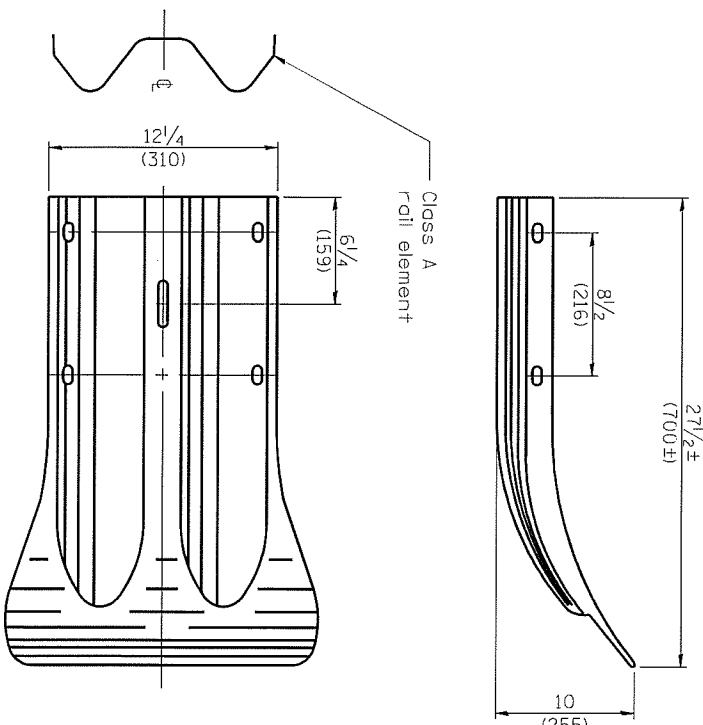
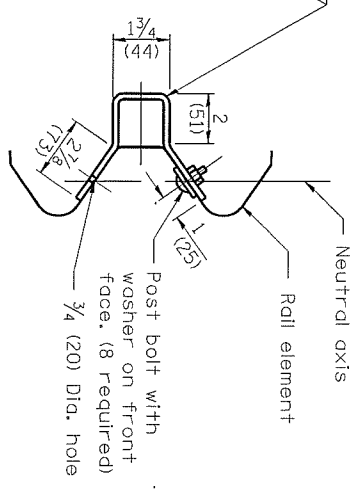
RAIL ELEMENT SPLICE

2 7/8 x 1 1/8 (23x29) Slotted holes for 5/8 (M16) splice bolts

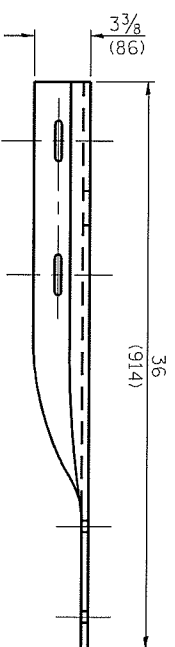
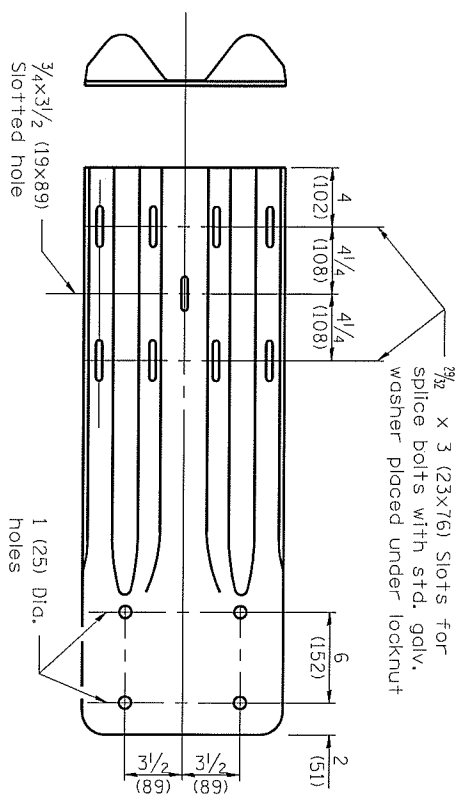


ANCHOR PLATE T DETAILS

NOTE
Anchor plate T shall be used to attach cable assembly to guard-rail when required on traffic barrier terminals.



END SECTION



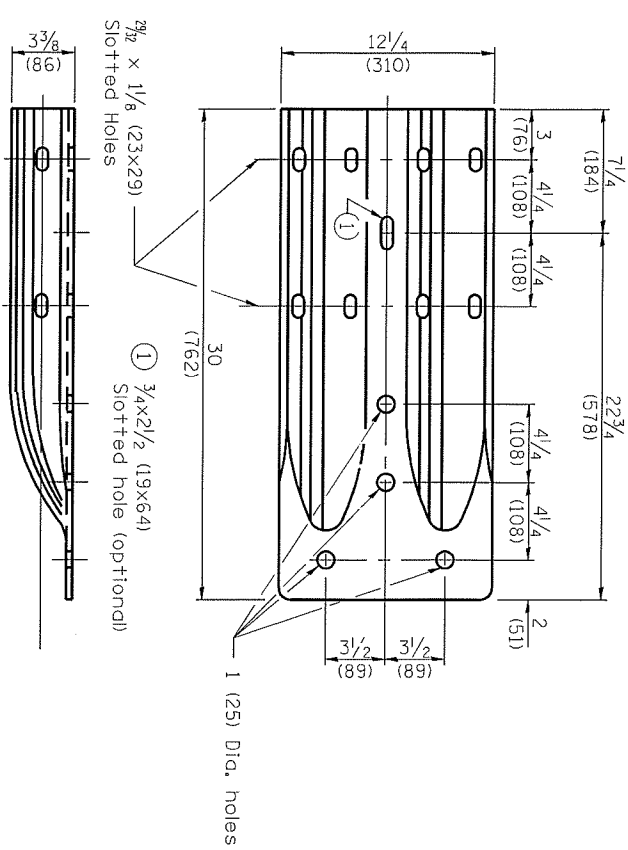
NOTE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guard-rail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

END SHOE



ALTERNATE END SHOE

Illinois Department of Transportation
 APPROVED January 1, 2010
 ENGINEER OF LOCAL ROADS AND STREETS
 APPROVED January 1, 2010
 ENGINEER OF DESIGN AND ENVIRONMENT

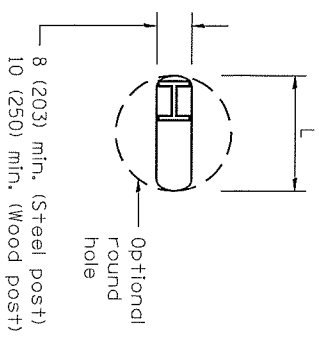
ISSUED 1-1-08

Various Routes
 D2 GR (North) 2020
 Various Counties
 Sheet 10 of 26
 Contract #64N95

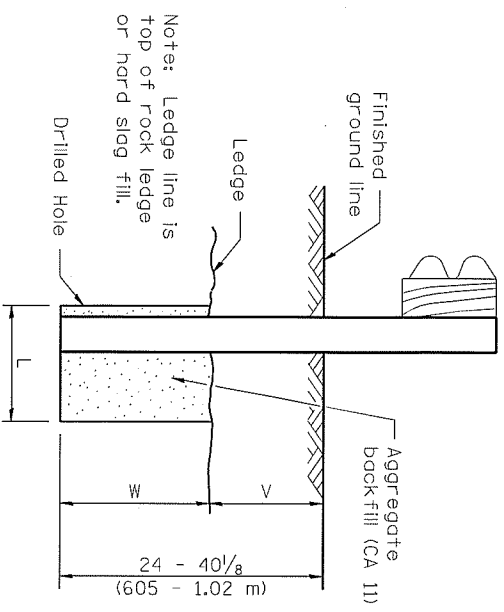
STEEL PLATE BEAM GUARDRAIL
27 1/2" (700mm) HEIGHT

STANDARD B.L.R. 26-2

(Sheet 3 of 4)

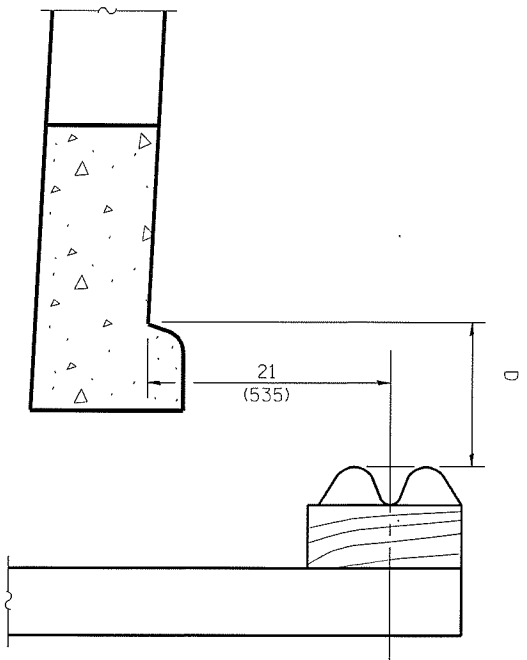


PLAN



ELEVATION

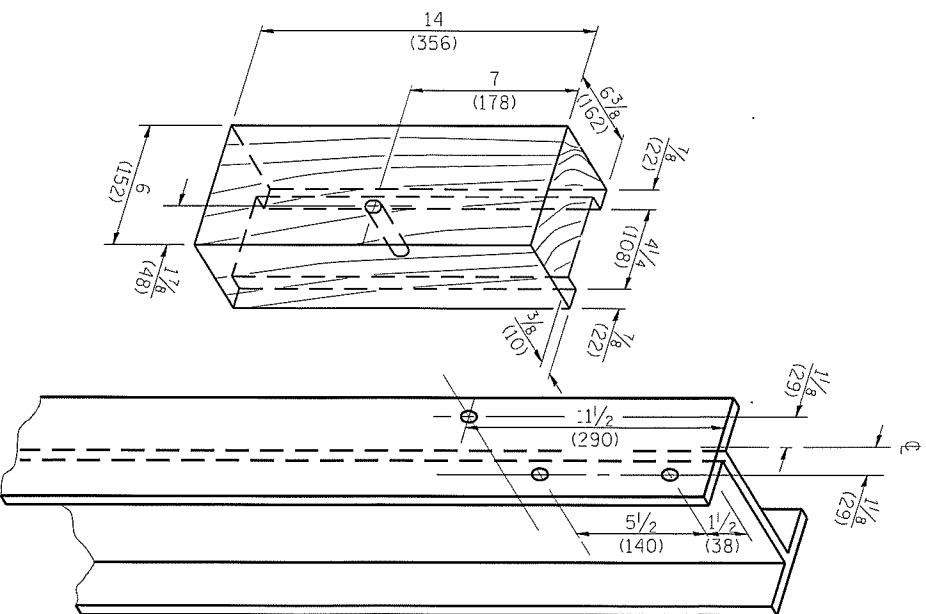
FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



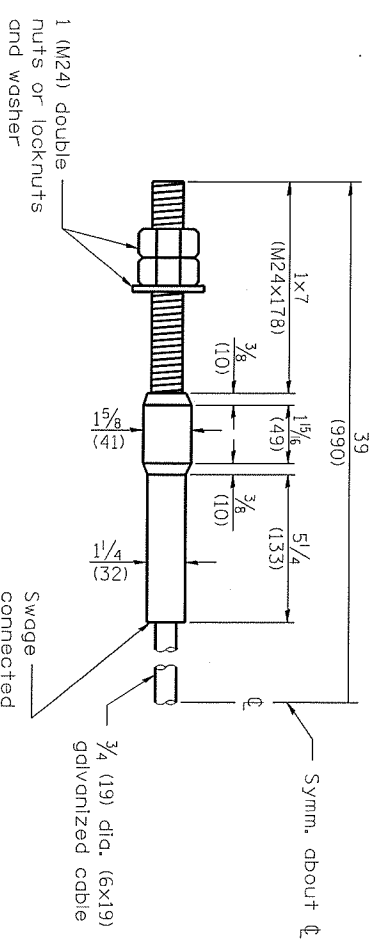
Note:
If it is necessary for D to be more than 12 (300) and less than 10'-0" (3.0 m) Type M-2 (M-5) curb and gutter (Std. 606001) shall be used in front of and in advance of the guard-rail.

GUARDRAIL PLACED BEHIND CURB
(D = 0 desirable to 12 (300) maximum)

V	W	L	
		Steel Post	Wood Post
0 - 16/8 (0 - 410)	24 (610)	21 (530)	23 (580)
>16/8 - 28/8 (>410 - 714)	12 (305)	8 (203)	10 (250)
>28/8 - 40/8 (>714 - 1.02 m)	12 - 0 (305 - 0)	8 (203)	10 (250)



WOOD BLOCK-OUT AND STEEL POST DETAILS



CABLE ASSEMBLY
(40,000 lbs. (18,100 kg) min. breaking strength)
Tighten to taut tension.

Illinois Department of Transportation
APPROVED January 1, 2010
ENGINEER OF LOCAL ROADS AND STREETS
APPROVED January 1, 2010
ENGINEER OF DESIGN AND ENVIRONMENT

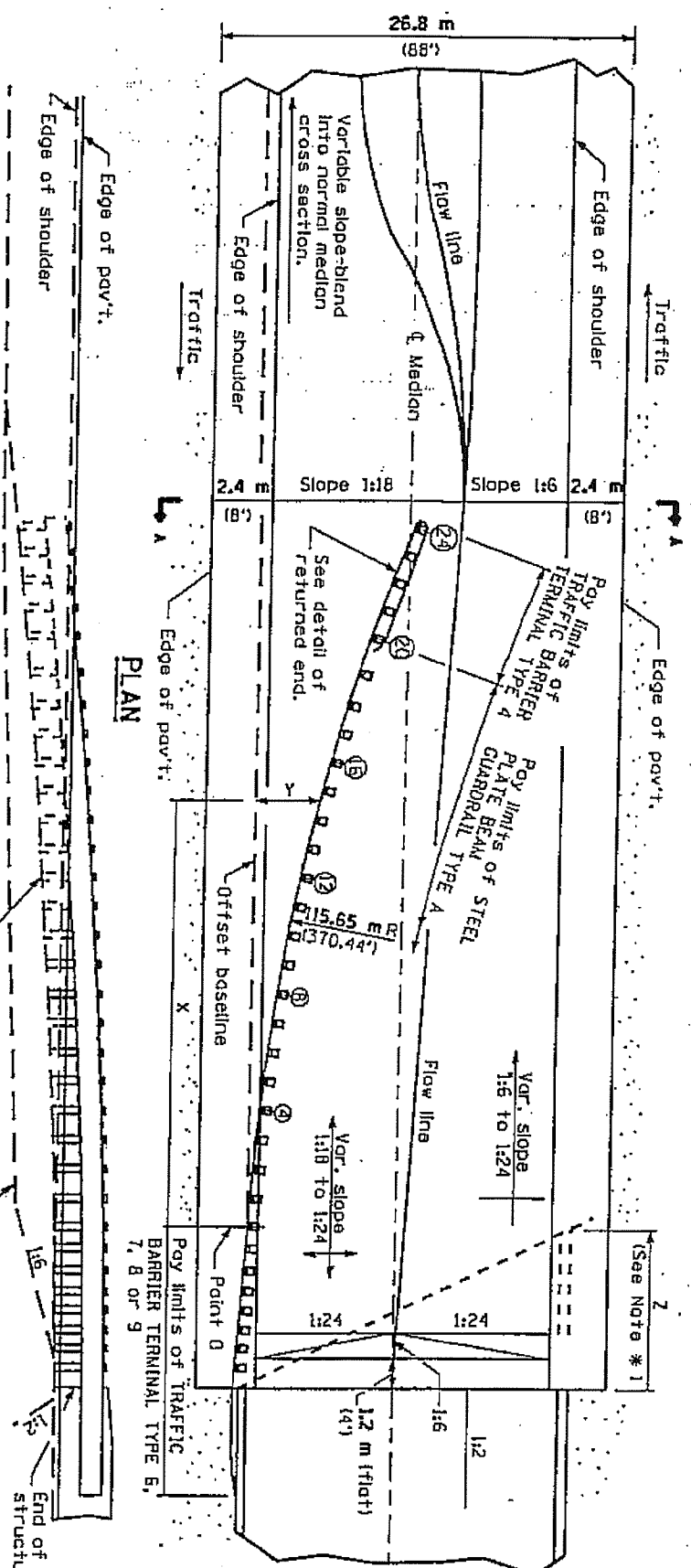
ISSUED 1-1-08

Various Routes
D2 GR (North) 2020
Various Counties
Sheet 11 of 26
Contract #64N95

STEEL PLATE BEAM GUARDRAIL
27 1/2" (700mm) HEIGHT

(Sheet 4 of 4)

STANDARD B.L.R. 26-2



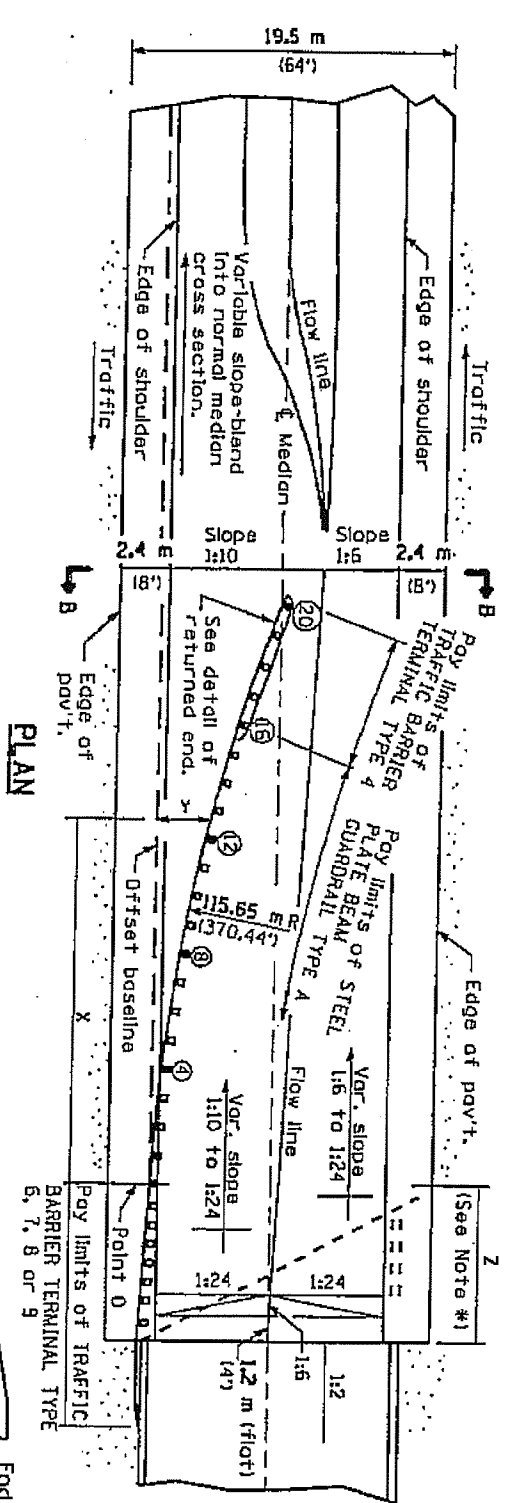
OFFSETS TO FACE OF RAIL			
POST POINT	DISTANCE X (ft.)	OFFSET Y (ft.)	
0	0	0	
4	7.60 (24.93)	0.56 (1.83)	
8	15.14 (49.68)	1.60 (5.28)	
12	22.60 (74.16)	3.16 (10.37)	
16	29.94 (98.23)	5.20 (17.05)	
20	37.13 (121.83)	7.31 (25.31)	
24	44.14 (144.83)	10.70 (35.09)	

Offsets (Y) are measured between the face of rail and the offset baseline, which is parallel to the pavement edge and passes through point 0.

The location of point 0 will vary, being dependent on structure details and the type of traffic barrier terminal utilized.

ASSEMBLY FOR 26.8 m (88 ft.) MEDIAN

PROFILE



PROFILE

ASSEMBLY FOR 19.5 m (64 ft.) MEDIAN

PROFILE

DATE	REVISIONS
10-1-98	Revised distance in offset table.
1-1-97	Revised Standard 2339-4.

TRAFFIC BARRIER TERMINAL TYPE 4

STANDARD 631021-01

(Sheet 1 of 2)

Illinois Department of Transportation
 October 1, 1998
 Approved: *John K. McElroy*
 ENGINEER OF POLLUTION PREVENTION
 October 1, 1998
 Approved: *John K. McElroy*
 ENGINEER OF DESIGN AND ENVIRONMENT

GENERAL NOTES

See Standard 630001 for details of guard-rail not shown.

* For dual structures skewed right forward, the nose of the Type 4 terminal shall be positioned longitudinally away from the structure for a distance equal to dimension Z. Appropriate adjustments to the length of the Type A guardrail and its offsets (Y) shall be calculated and used. All additional lengths of guardrail shall be in increments of 3.87 m (12'-6").

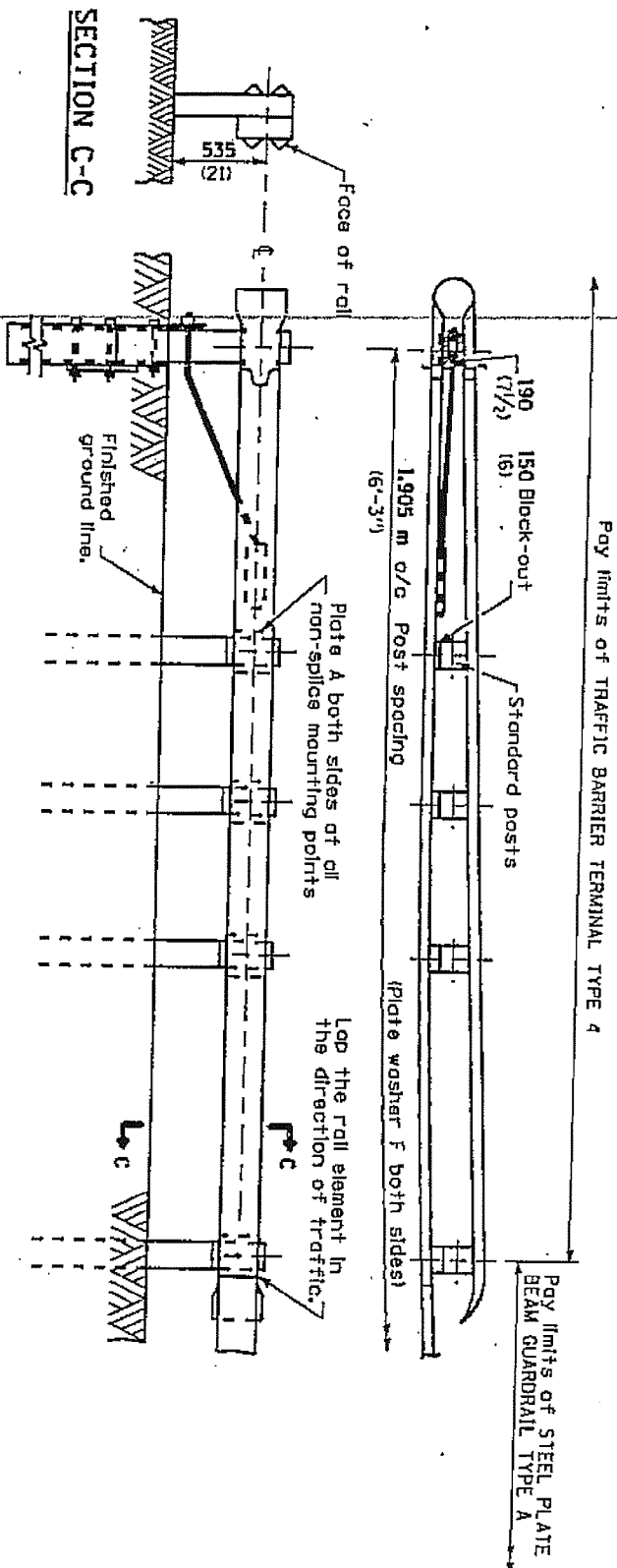
For dual structures that are 90° or skewed left forward, the length of guardrail is appropriate.

The bearing plate X shall be held in position by two eight penny nails driven into the post and bent over the top of the plate.

All slopes are expressed as units of vertical displacement to units of horizontal displacement (V:H).

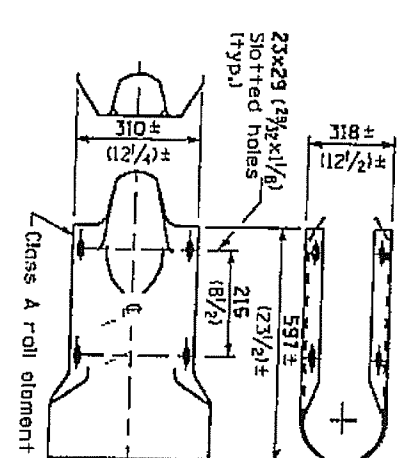
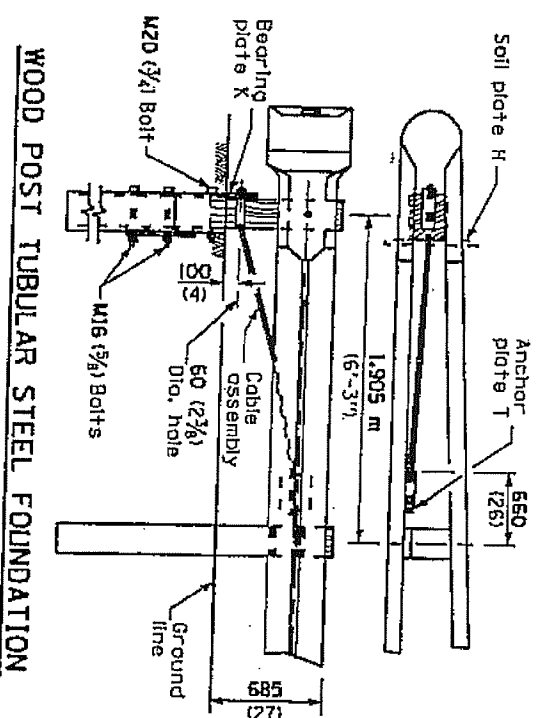
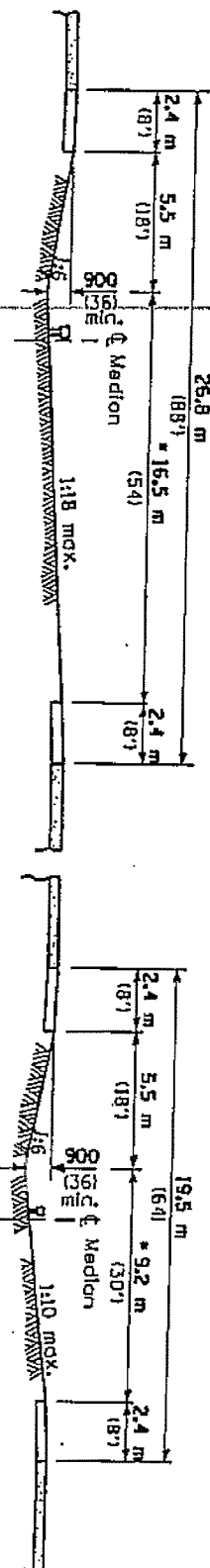
All dimensions are in millimeters (inches) unless otherwise shown.

Fay limits of TRAFFIC BARRIER TERMINAL TYPE 4

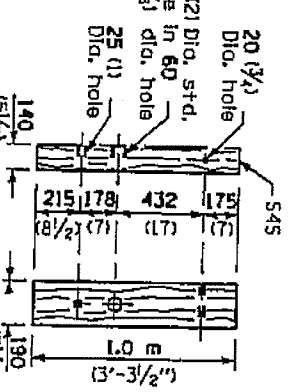
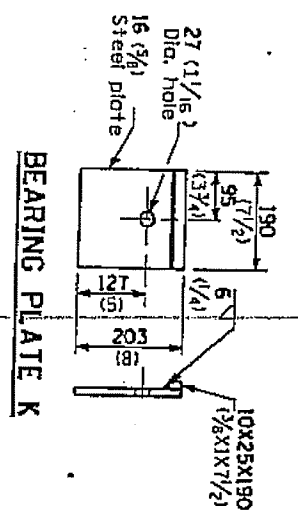


RETURNED END DETAIL

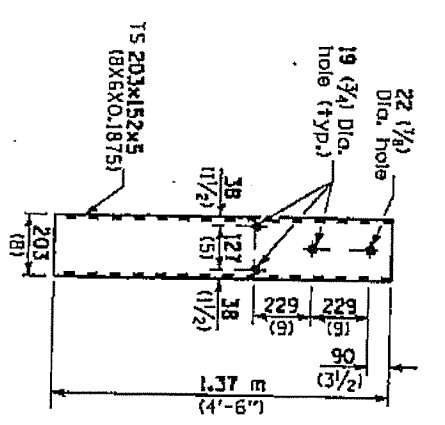
* Adjust this dimension when the width of the shoulder is other than 2.4 m (8').



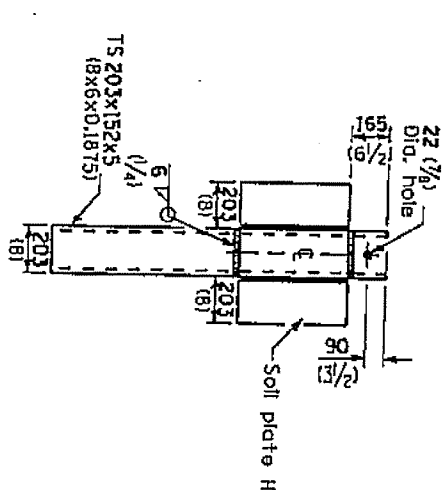
RETURN END SECTION



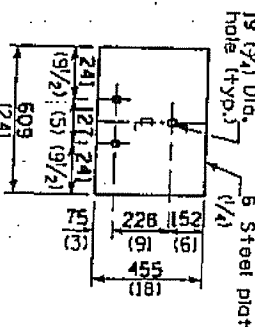
WOOD BREAKAWAY POST



STEEL TUBE



ALTERNATE SOIL PLATE CONNECTION



SOIL PLATE H

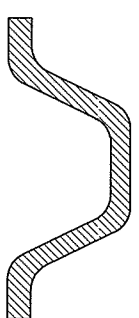
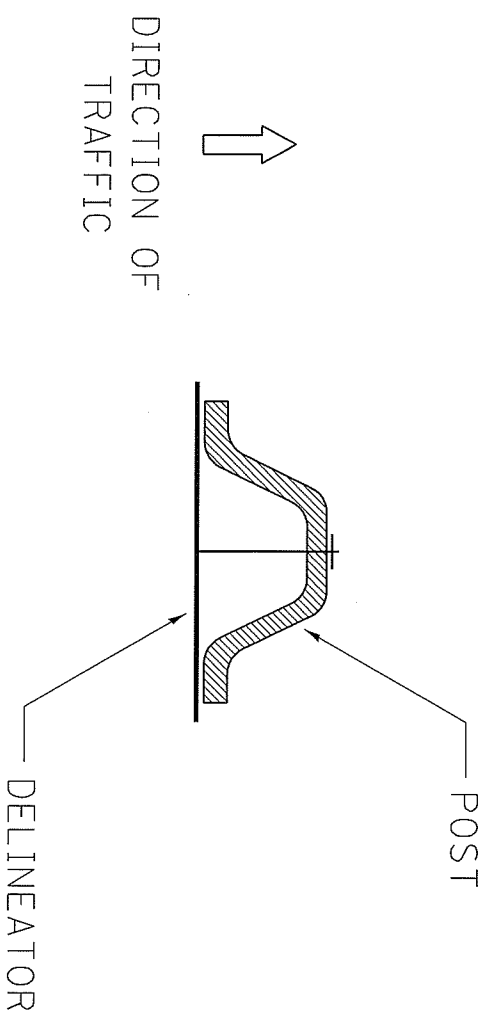
All dimensions are in millimeters (inches) unless otherwise shown.

TRAFFIC BARRIER TERMINAL TYPE 4
(Sheet 2 of 2)
STANDARD 631021-01

Various Routes
D2 GR (North) 2020
Various Counties
Sheet 15 of 26
Contract #64N95

Illinois Department of Transportation
October 1, 1998
PASSED
Approved by Policy and Procedures
October 1, 1998
DESIGNED BY
CHECKED BY

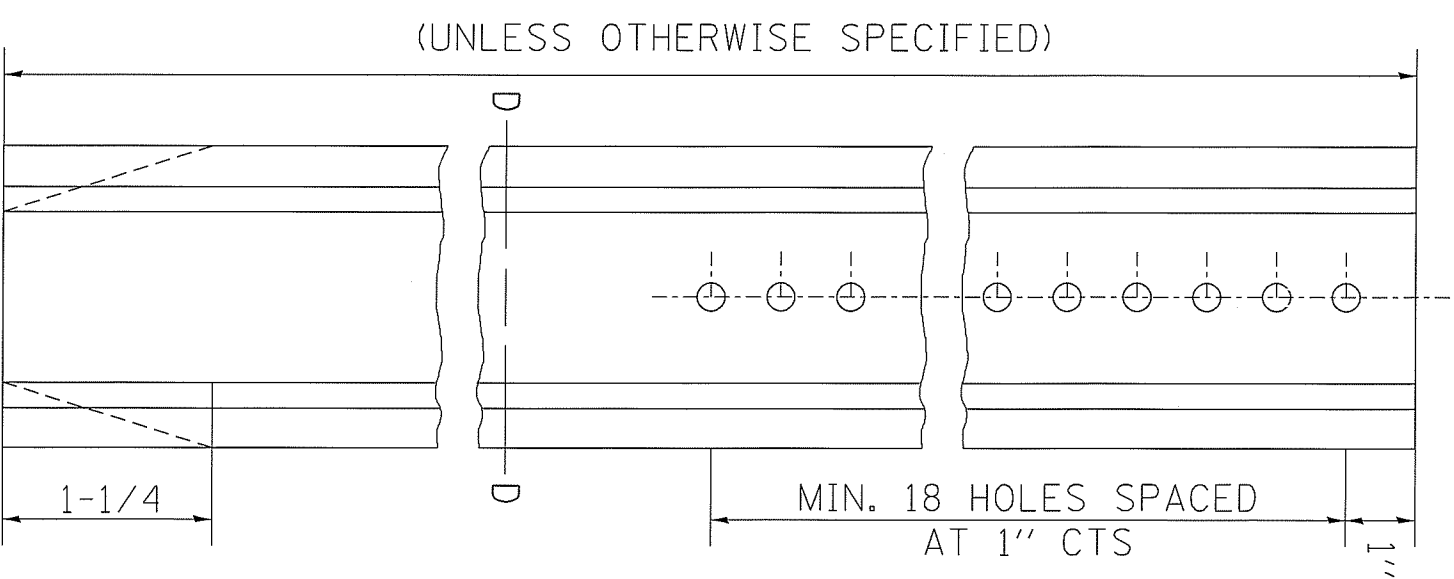
DELINEATOR AND POST ORIENTATION



SECTION D-D

DELINEATORS SHALL BE INSTALLED ACCORDING TO STANDARD 635001 EXCEPT THAT THE POST SHALL BE ROTATED 180°. THE POST WILL HAVE THE WIDE SIDE FACING TRAFFIC AND THE DELINEATOR ATTACHECD AS SHOWN ABOVE.

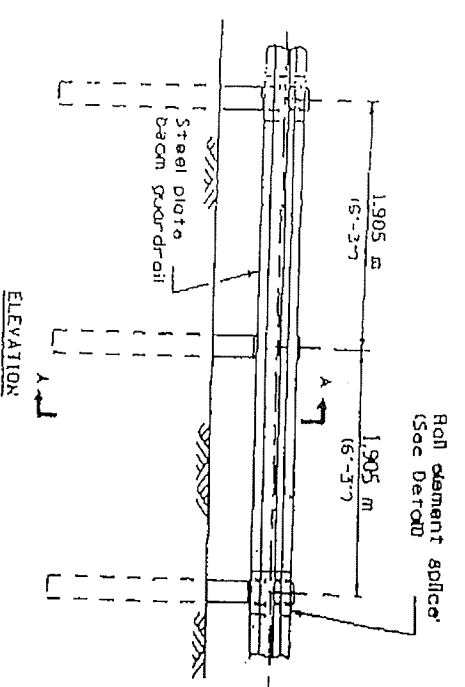
ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.



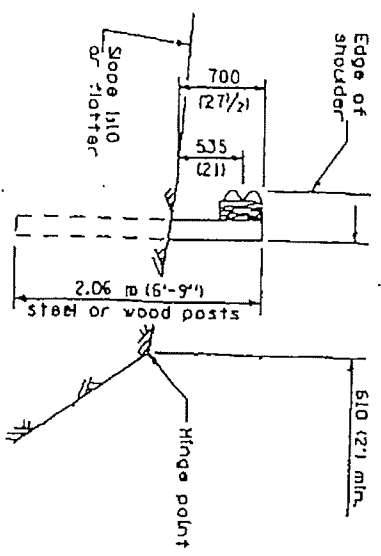
REVISED	-	10-3-11
REVISED	-	
REVISED	-	
REVISED	-	

REGION 2 / DISTRICT 2 STANDARD			
SCALE:	51.4981' / 1in.	SHEET NO.	OF
		SHEETS	STA.
			TO STA.

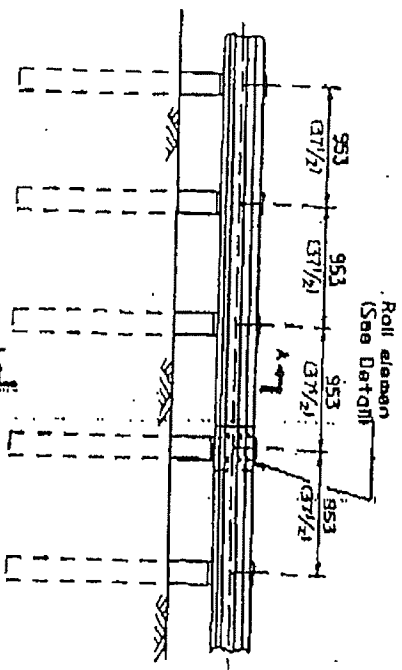
F.A. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
VAR	D2 GR (NORTH) 2020	VARIOUS	26	17
FED. ROAD DIST. NO.		ILLINOIS FED. AID PROJECT		
		CONTRACT NO. 64N95		



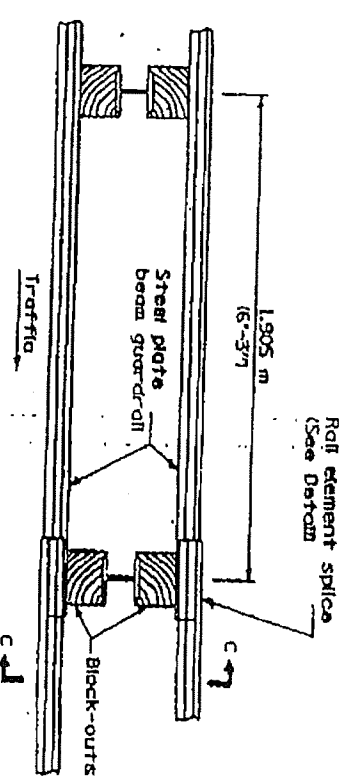
TYPE A
1.905 m (6'-3") Typical post spacing



SECTION A-A



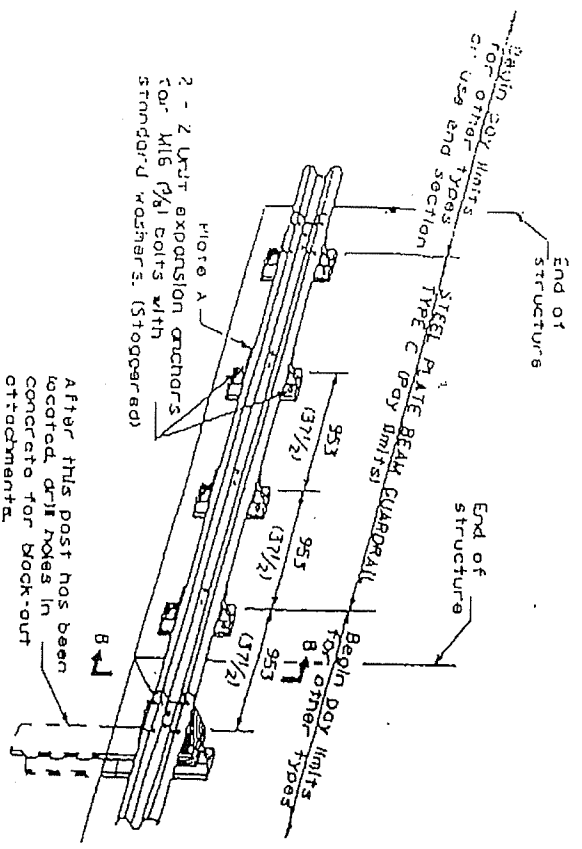
TYPE B
953 (37 1/2) Closed post spacing



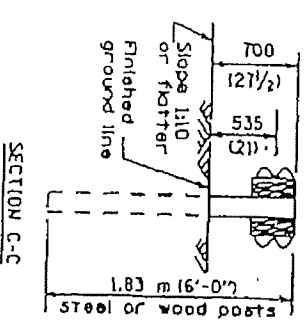
TYPE D
Double steel plate beam guardrail
1.905 m (6'-3") typical post spacing

GENERAL NOTES

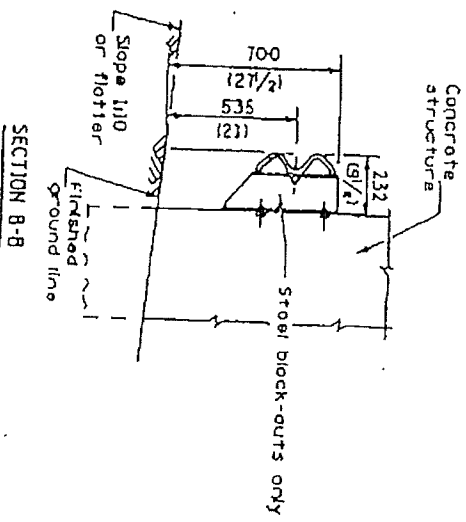
All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).
All dimensions are in millimeters (inches) unless otherwise shown.
The existing steel posts may be drilled to match the bolt pattern, or a new steel post shall be provided. This detail is applicable to the guardrail system used prior to January 1, 2007. For details on the Midwest Guardrail System, see Standard 53000L.



TYPE C
953 (37 1/2) Back-out spacing



SECTION C-C



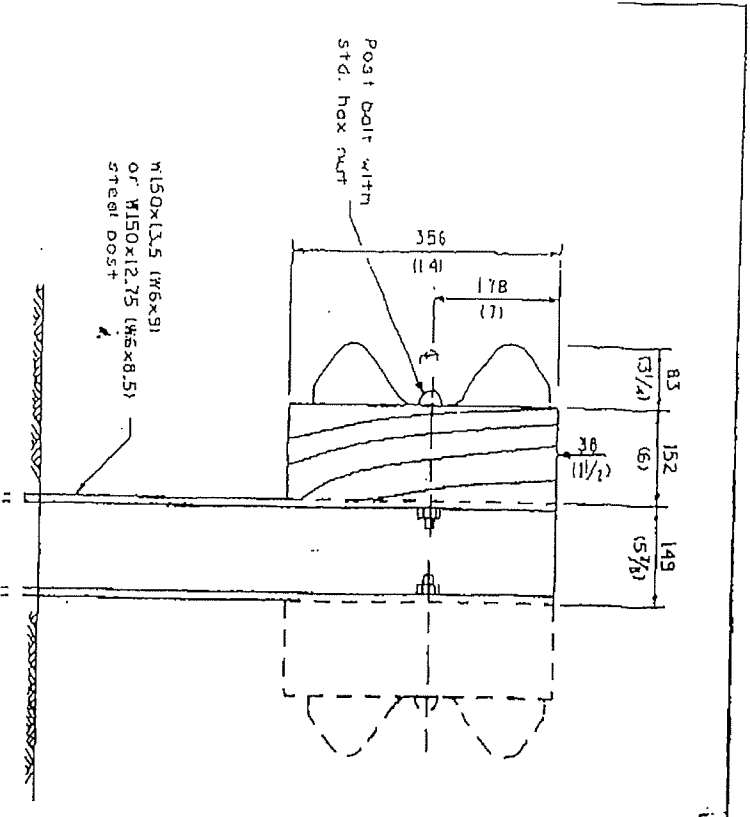
SECTION B-B

REMOVE AND REERECT
STEEL PLATE BEAM GUARDRAIL

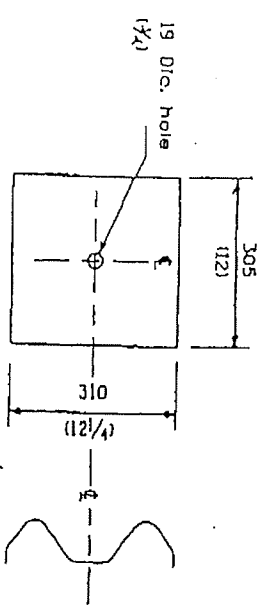
DETAIL

(Sheet 1 of 2)

Various Routes
 D2 GR (North) 2020
 Various Counties
 Sheet 19 of 26
 Contract #64N95



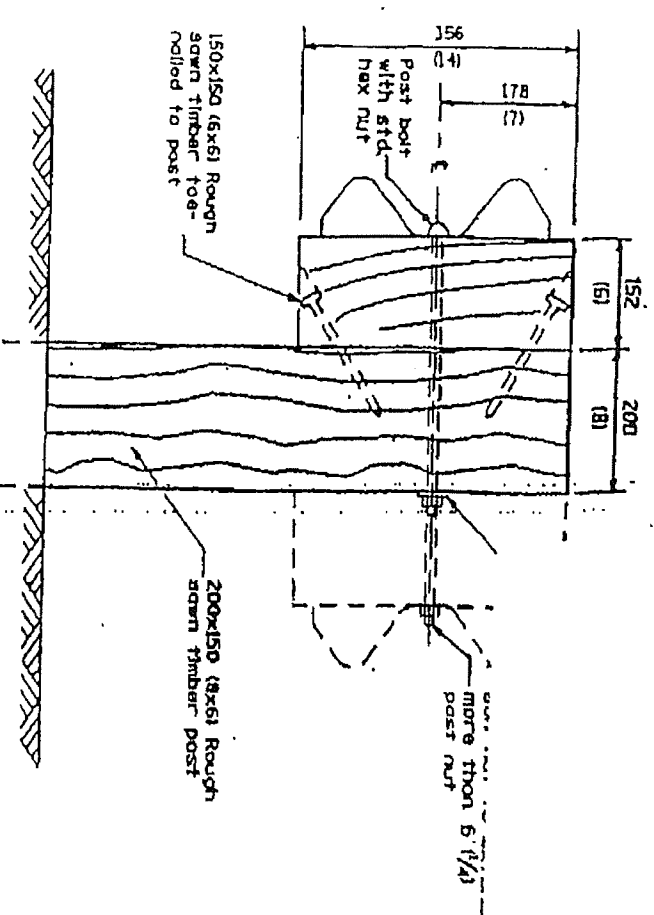
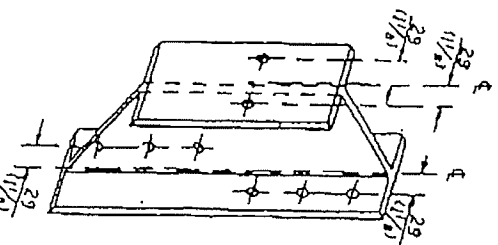
STEEL POST CONSTRUCTION



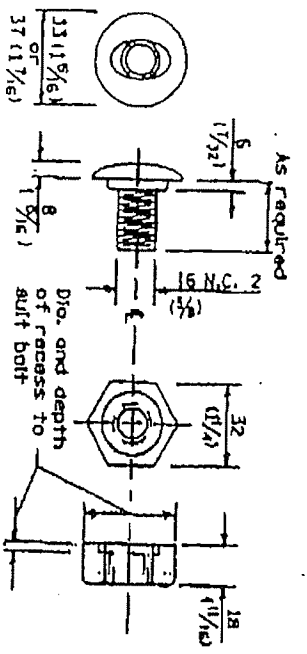
STEEL BLOCK-OUT DETAIL

NOTE
 Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

PLATE A



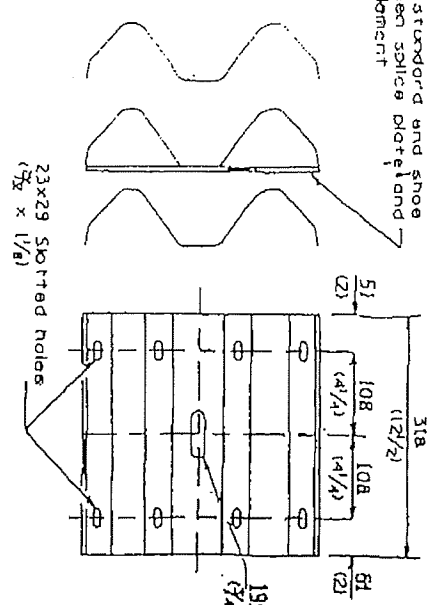
WOOD POST CONSTRUCTION



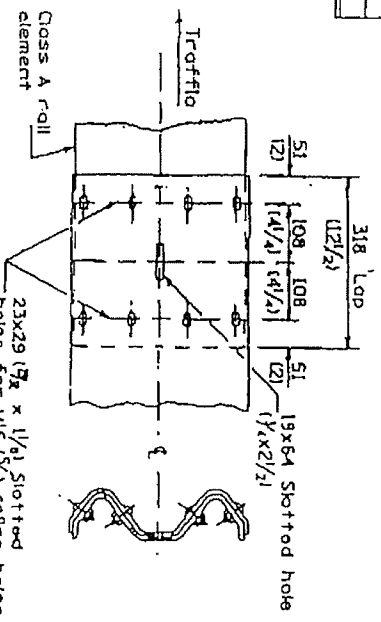
POST OR SPLICE BOLT & NUT

REMOVE AND REERECT
 STEEL PLATE BEAM GUARDRAIL
 Sheet 2 of 4
 DETAIL

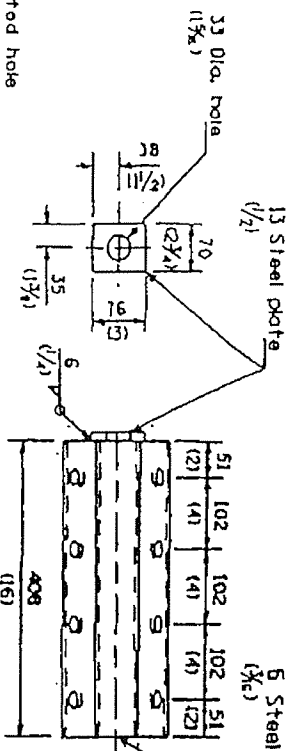
Place standard end shoe between splice plate and rail element



SPLICE PLATE

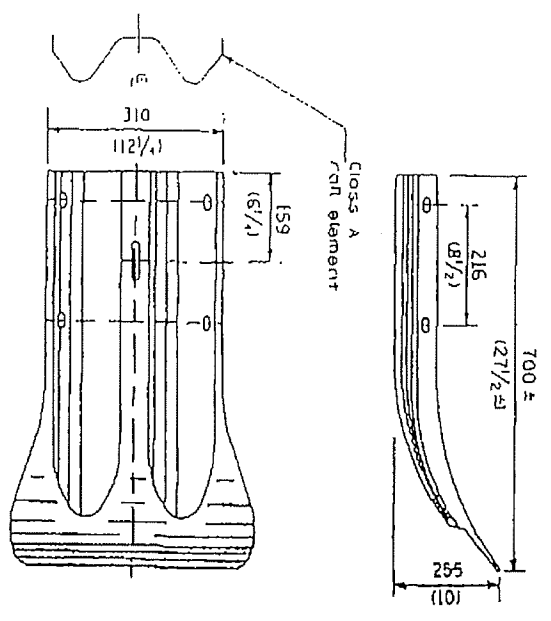
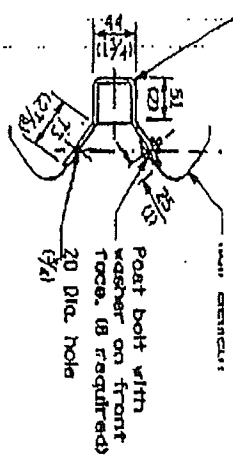


RAIL ELEMENT SPLICE

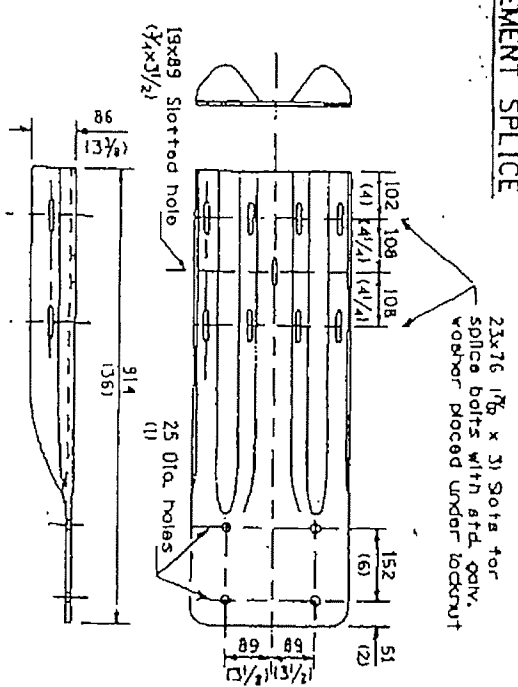


ANCHOR PLATE T DETAILS

NOTE
 Anchor plate T shall be used to attach cable assembly to quad-rail when required on traffic barrier terminals.

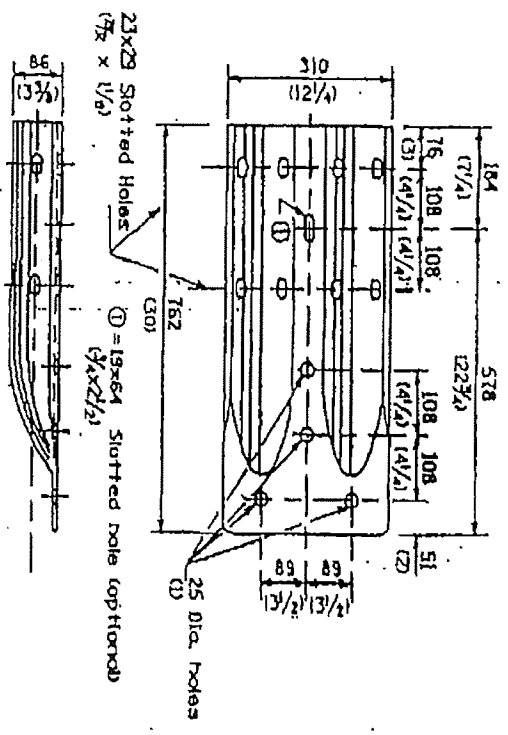


END SECTION



NOTE
 When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow quad-rail movement.
 The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.
 Externally threaded studs protruding from the surface of the concrete will not be permitted.

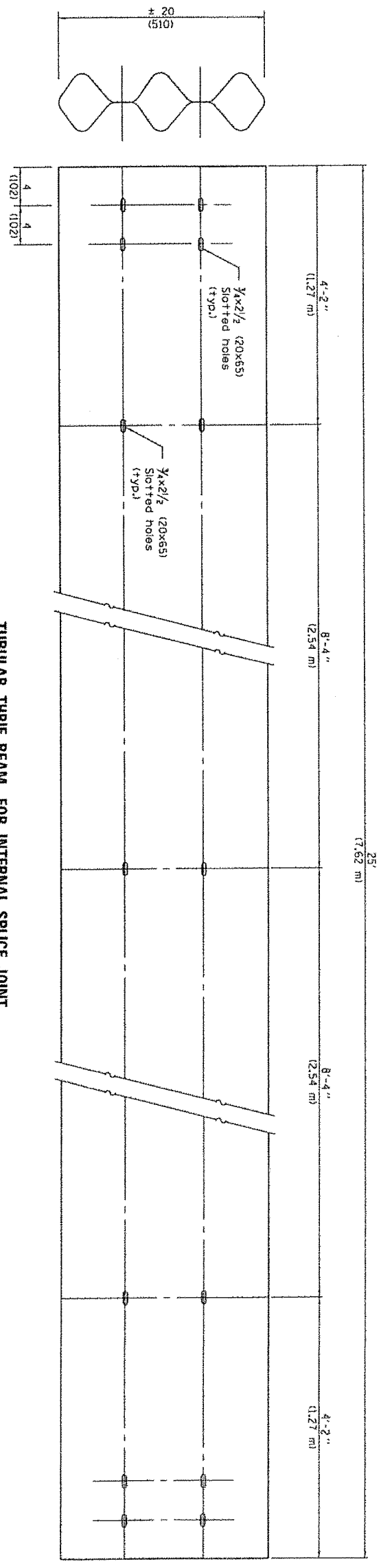
END SHOE



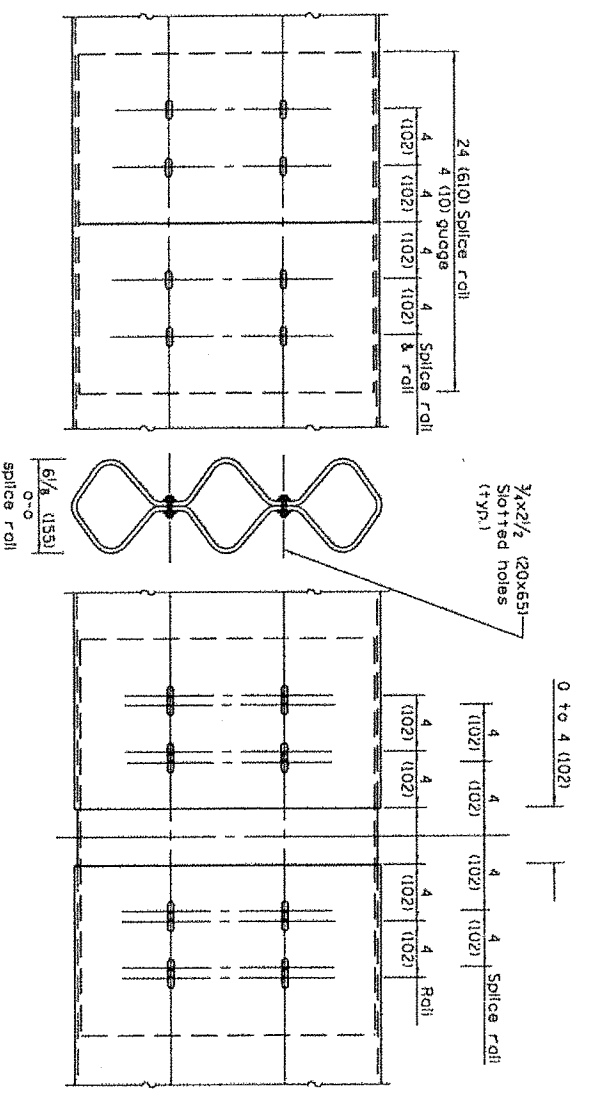
ALTERNATE END SHOE

REMOVE AND REERECT
 STEEL PLATE BEAM GUARDRAIL
 DETAIL
 (Sheet 3 of 4)

Various Routes
 D2 GR (North)2020
 Various Counties
 Sheet 22 of 26
 Contract #64N95

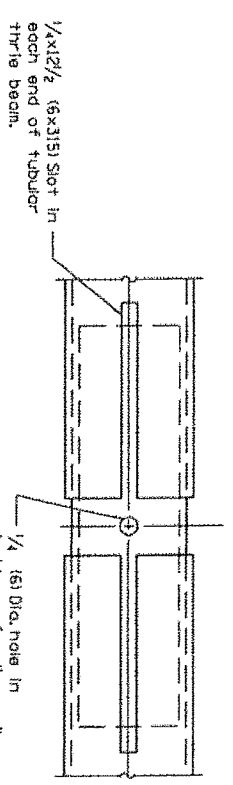


TUBULAR THREE BEAM FOR INTERNAL SPLICE JOINT



INTERNAL SPLICE JOINT

INTERNAL EXPANSION SPLICE JOINT



BOTTOM VIEW OF INTERNAL EXPANSION SPLICE JOINT

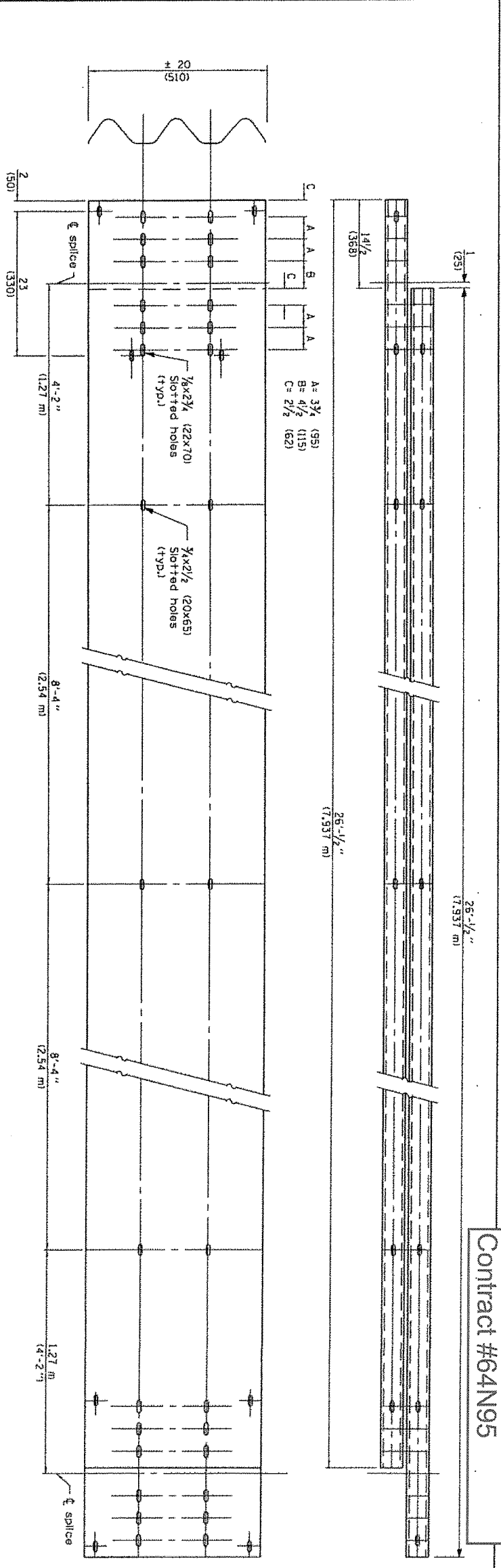
GENERAL NOTES

Plate Washers B are to be placed under both heads and nuts of splicing bolts for internal splice and internal expansion splice joint.
 Plate Washers C are to be placed under both heads and nuts of splicing bolts for lap expansion and internal splice joint.
 See Standard 530001 for details of quarter roll not shown.
 All dimensions are in inches (millimeters) unless otherwise shown.

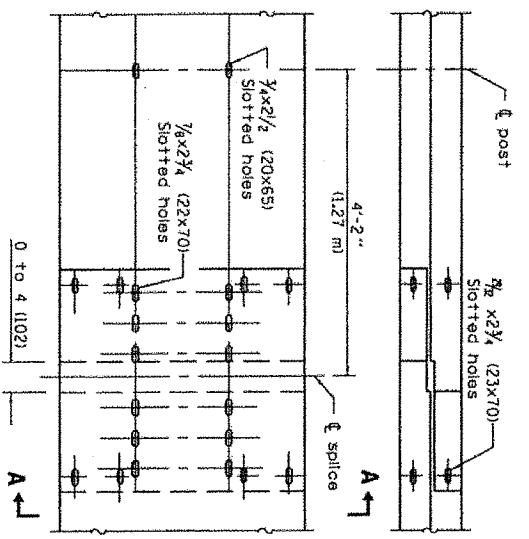
Illinois Department of Transportation
 PASSED January 1, 2011
 ENGINEER OF POLICY AND PROCEDURES
 APPROVED January 1, 2011
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED 1-1-97

DATE	REVISIONS	TUBULAR THREE BEAM RETROFIT RAIL FOR BRIDGES (Sheet 1 of 3)
1-1-11	Corrected note on "Plate Washer B" detail.	STANDARD 509001-02
1-1-09	Switched units to English (metric). Added Plate Washer F detail.	

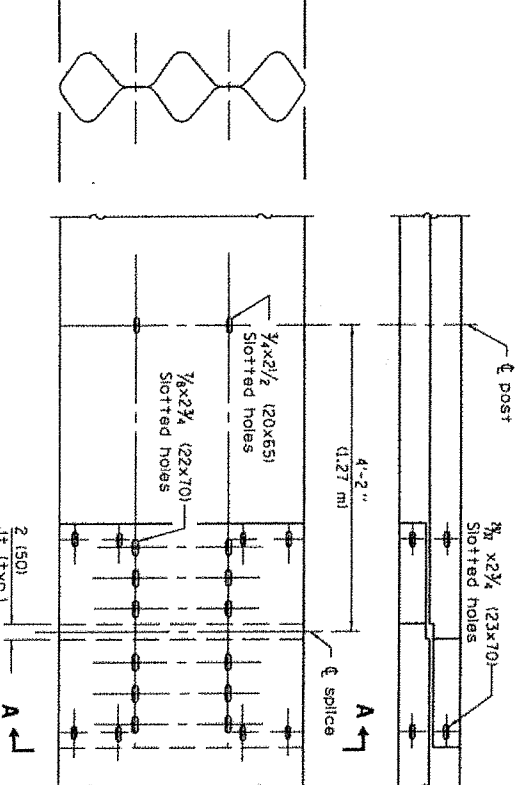
Various Routes
 D2 GR (North) 2020
 Various Counties
 Sheet 23 of 26
 Contract #64N95



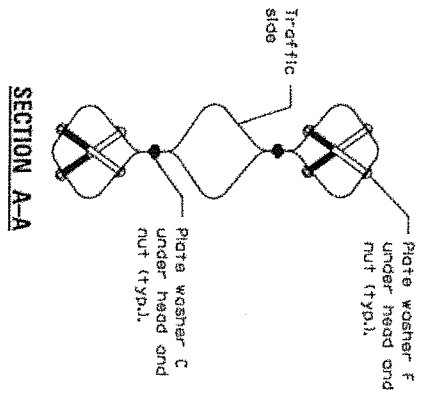
TUBULAR THRIE BEAM FOR LAP SPICE JOINT



LAP EXPANSION SPICE JOINT



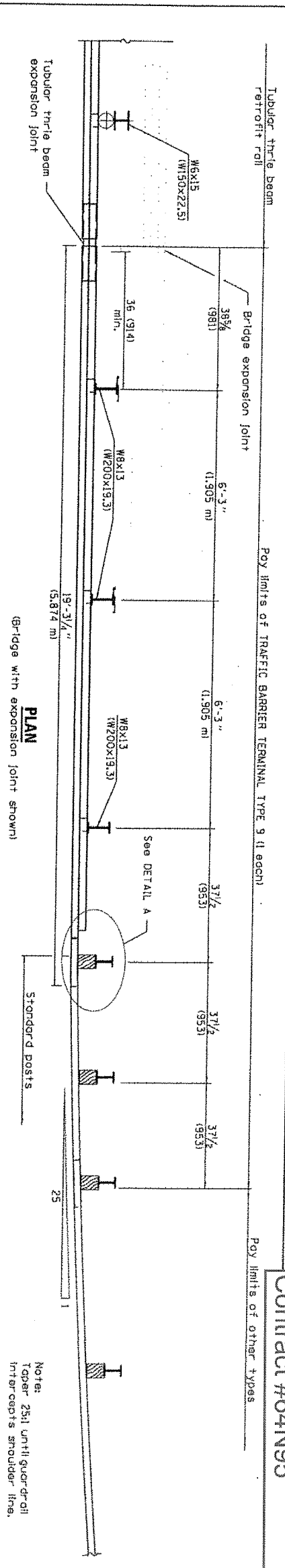
LAP SPICE JOINT



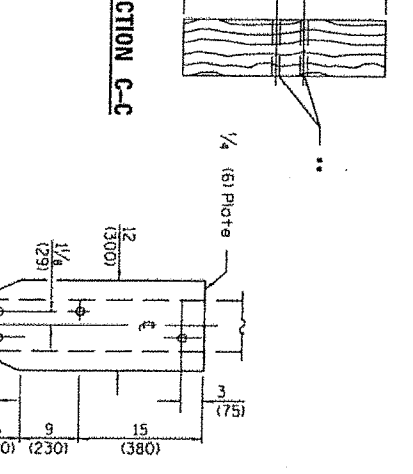
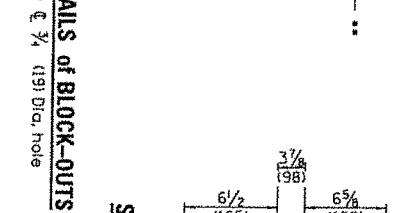
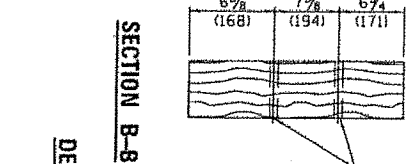
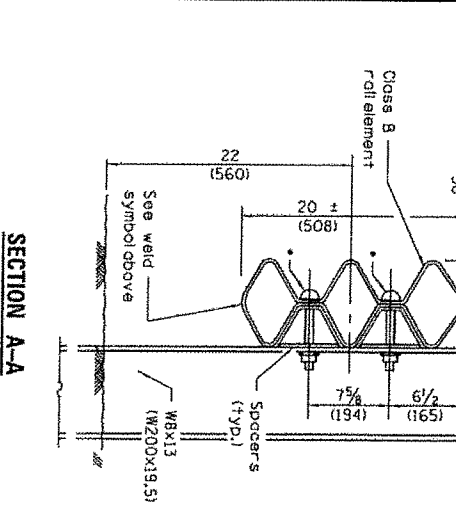
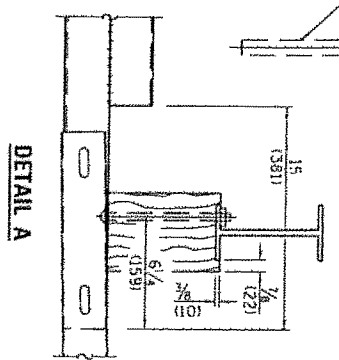
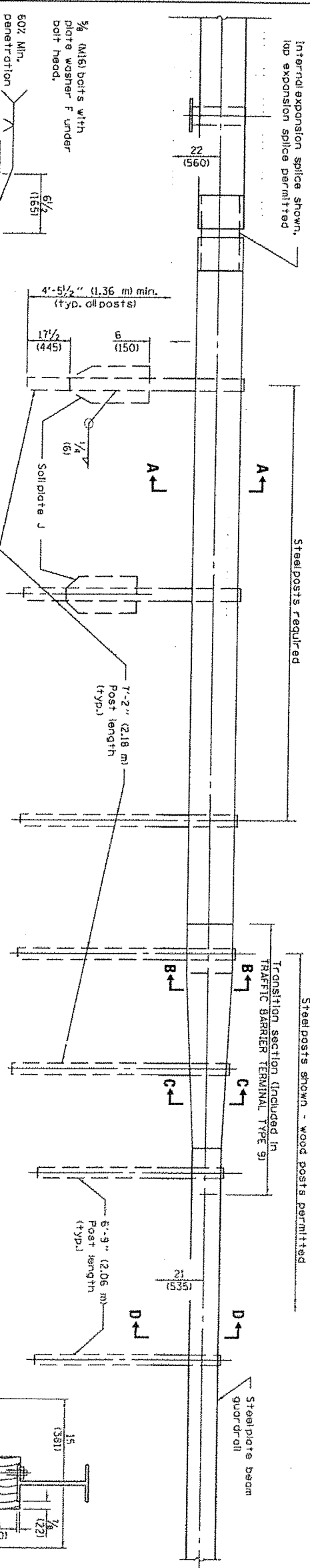
SECTION A-A

Illinois Department of Transportation
 JONQUET, L. 2011
 PASSED
 ENGINEER OF POLICE AND PROSECUTES
 APPROVED
 ENGINEER OF DESIGN AND ENVIRONMENT
 ISSUED 1-1-97

TUBULAR THRIE BEAM
 RETROFIT RAIL FOR BRIDGES
 STANDARD 509001-02
 (Sheet 2 of 3)



Note:
Taper 25:1 until guardrail intercepts shoulder line.



GENERAL NOTES
See Standards 509001 and 630001 for details of guardrail elements not shown.
The Type 9 terminal shall be installed after the posts for the bridge retrofit roll have been located as shown on Standard 509001.
All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation
PASSED: [Signature] AUGUST 1, 2011
ENGINEER OF POLICE AND PROCEDURES
APPROVED: [Signature] AUGUST 1, 2011
ENGINEER OF DESIGN AND ENVIRONMENT
ISSUED 1-1-97

SOIL PLATE J & ALTERNATE CONNECTION DETAILS

DATE	REVISIONS
1-1-11	Omit 1/4\"/>
1-1-09	Switched units to English (metric).

TRAFFIC BARRIER TERMINAL TYPE 9
STANDARD 631041-03